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ABSTRACT

A study investigated the feasibility and advisability of restructuring Virginia public vocational education programs to provide blocks of time larger than those traditionally provided for on-the-job, cooperative, and apprenticeship training. Data were collected through a review of research and of education-work models; telephone and personal interviews with vocational education administrators, special program directors, Virginia Department of Education staff, and industry representatives; and the examination of nontraditional vocational education programs in the state. Education and industry personnel reviewed and critiqued the first draft of the study's recommendations. The following major recommendations are reported: (1) vocational education should be restructured to include a culminating, supervised on-the-job educational experience not to exceed 20 hours per week while school is in session for those students likely to enter full-time employment immediately after high school; and (2) scheduling supervised on-the-job experience should be a local decision and should include ample time for students to receive quality work experience. Four supporting recommendations were also made, including one suggesting the provision of a comprehensive program incorporating a vocational education component that begins in middle school for "at-risk" students. (The document contains a 24-item bibliography and two appendices, the first describing nontraditional vocational education work programs in Virigina and the second citing facts and statistics that provide evidence of the nature of the "at-risk" problem in the schools.) (CML)

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VOCATIONAL EDUCATION WORK PROGRAMS:

PROVIDING AMPLE TIME FOR QUALITY WORK EXPERIENCES

In Response to The Virginia's General Assembly House Joint Resolution No. 359

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VOCATIONAL EDUCATION WORK PROGRAMS:

PROVIDING AMPLE TIME FOR QUALITY WORK EXPERIENCES

A Response to House Joint Resolution No. 359

In April 1989 a sub-committee of the Virginia General Assembly requested that the Virginia Department of Education study the feasibility and advisability of restructuring vocational education programs in the public schools to provide blocks of time larger than those traditionally provided for on-the-job, cooperative, and apprenticeship training. The administrators of Vocational and Adult Education of the Virginia Department of Education fulfilled this request by arranging for the study to be conducted by the Division of Vocational and Technical Education at Virginia Polytechnic Institute and State University (Virginia Tech).

Procedures

The following procedures were used in conducting the study:

1. An advisory group, consisting of education and industry personnel, provided guidance and advice.

2. Relevant literature, research, and education/work models were reviewed, analyzed, and synthesized.

3. Interviews were conducted, either by telephone or in person, with vocational education administrators, special program directors, Virginia Department of Education staff, and industry representatives.

4. Non-traditional vocational education work programs in Virginia were examined. (See Appendix A for description of selected programs.)

5. Drafts of recommendations were prepared and reviewed by advisors to the study.

6. Focus group meetings with education and industry personnel were conducted. During these meetings, participants reviewed and critiqued the first-draft report of the study.

Recommendations

The following recommendations are made, based on analyses of various studies; data bases; national and state commission reports related to the education of high school students, youth employment, and preparation for the workplace; and testimonials from business people and educational administrators.

Major Recommendation #1

Restructure vocational education programs to include a culminating, supervised on-the-job educational experience for those students who are likely to enter into full-time employment immediately upon graduation from high school.

The amount of time devoted to on-the-job experience should be based on the individual needs of the student as well as on characteristics of the school program and cooperating businesses. However, the work schedules of most students should not exceed 20 hours per week while school is in session.

Traditionally, school-supervised employment experience has been highly valued for vocational education students as they prepare for their chosen careers. The coordination of classroom instruction with on-the-job career preparation activities has been the vital link in making experiences at both sites relevant and meaningful for the students.

For a time, even unsupervised work experience was viewed as valuable for most teenagers because of social, economic, and educational outcomes perceived to result from having a job. There now is growing public debate on the value of work experience for youth without school intervention. Changes in the economy have resulted in a growing service sector with numerous part-time, low-skill level jobs available for teenagers. Most of these jobs are held by high school students who are not enrolled in an employment-experience program supervised by a teacher-coordinator at the school.

Evidence of growth in teenage employment in various types of jobs, supervised and unsupervised, is provided as follows:

- 90% of all high school students have worked by the time they are seniors in high school. (Charner and Fraser, 1988)
- 63% of high school seniors and 42% of sophomores work at any given time

during the school year. (Greenberger and Steinberg, 1986)

- About 25% of students work all three years while in high school; another 25% work two of the three years. (Charner and Fraser, 1988)

- Compared to youth employment figures from previous eras, current figures show huge percentage increases--65% for males and 240% for females in three decades. (Greenberger and Steinberg, 1986)

- Teenage work is distinctly an American phenomenon; only 37% of teens work in Canada, 20% in Sweden, and 2% in Japan. (Reubens, Harrison, and Rupp, 1981)

The nature of unsupervised youth employment, defined as naturally occurring without any form of school intervention, has been documented. Characteristics of this unsupervised work include the following:

- Teenagers' jobs are clustered in five occupations: operatives, service workers, laborers, salespersons, and farm laborers. (Charner and Fraser, 1988)

- Less than 10% of work time is spent in reading, writing, calculating, exercising judgment or decision making; 25% of the time is spent cleaning or carrying items. The routinized, repetitive, and often pressured nature of uninteresting tasks often leads to poor self-reliance, refusal to make decisions, and negative self- management. (Greenberger and Steinberg, 1986)

- Most teenage jobs require little training, drawing on skills already in place. Little training is provided on the job. (Greenberger and Steinberg, 1986)

- The workplace is age-segregated. Today's youngsters work side by side with other youngsters and without on-the-job instructors or mentors. On

> the average, only about 2% of job time--about one minute per hour--is devoted to adult inculcation of values and work- related ethics or on the formation of adult-youth mentor relationships. (Greenberger and Steinberg, 1986)

The relationship between the quantity of work time and academic performance suggests a limit on the number of hours teenagers should work each week. Examples of observations of this relationship are as follows:

- In some studies, a statistical correlation indicated that intensive levels of working depress grade point average (GPA), especially among younger (15- and 16-year old) workers. Furthermore, students report that work hurts their academic performance at a somewhat more pronounced level than the data show. (Greenberger and Steinberg, 1986)

- There seems to be a curvilinear relationship between hours worked and grades attained with 20 hours the "magical" cut-off when a negative effect emerges. (Charner and Fraser, 1988)

- Students who work more than 20 hours per week spend decreased time on homework. They also tend to have lower educational aspirations. (Charner and Fraser, 1988)

- One study demonstrates that 44% of juniors and seniors take only the minimum number of courses required for graduation in order to balance school and work. Many teachers lower academic expectations when they discover that students are devoting their after-school energies to part-time work. (McNeil, 1984)

It must be emphasized that the negative effects of work appear to accrue from naturally occurring, unsupervised youth employment. Proponents of the inclusion of supervised work experience in vocational education stress that value is obtained when the work component is carefully structured in relationship to the student's academic program and supervised by education and business/industry personnel. Supervised work experiences such as

cooperative education, apprenticeship training, clinical/field internships, and others have been designed to achieve important educational and vocational outcomes. In studying vocational programs using school-supervised work experiences, Stone, Stern, Hopkins, and McMillion (1989) found that students in these programs were likely to be characterized as follows:

- Having jobs that give them an opportunity to do a variety of tasks
- Holding jobs that involve complex responsibilities
- Developing social and career maturity
- Increasing academic achievement
- Experiencing a positive work environment
- Enhancing cognitive development
- Making successful job transitions.

Hernstadt, Horowitz, and Sum (1979) found that students who participate in cooperative education programs were more likely than students who acquire jobs on their own to do the following:

- Receive on-the-job training from their employers
- Believe that their work experience had a positive influence on their decision to stay in school, attend classes during their senior year, and obtain a full-time job after graduation.

Major Recommendation #2

Include ample time for students to receive quality work experiences when scheduling supervised on-the-job education. The scheduling pattern(s) used should represent a local decision.

Careful consideration must be given to the scheduling pattern for the work component of the program. Current programs applying cooperative education, apprenticeship training, or clinical/field internship models allow for several alternating strategies for classroom instruction and the work component.

These strategies may include half-day, daily, weekly, monthly, or semester alternating periods, depending on the needs of students and employers. As indicated previously, it is recommended that students not be allowed to work more than 20 hours per week when school is in session, regardless of the model or the alternating pattern selected. Further evidence shows that there may be negative effects from longer working hours on school related variables such as grades, time spent on home work, levels of courses selected, and teacher expectations of students who work part-time. (Greenberger and Steinberg, 1986; Charner and Fraser, 1988; McNeil, 1984.)

Although there is little evidence supporting one alternating pattern over another, the traditional strategy of alternating instruction and work on a half-day basis may be the most feasible for a majority of students. This pattern has been the most successful of all the schedules tried because of the following factors:

- It allows students to take classes during regularly scheduled school time periods, thus enabling them to gain personal, social, and cultural skills through the normal school environment and extracurricular activities such as clubs, assemblies, speakers, plays, and field trips.

- It provides an effective and economical arrangement for schools by not requiring the scheduling and staffing of special sections of academic courses.

Students with career interests in occupational areas that typically have working hours extending beyond 5:00 or 6:00 p.m. will not have problems scheduling their work with ample blocks of time to receive quality work experiences. In fact, these students may even elect to take classes beyond 12:00 noon. Students who have career interests in occupational areas that typically have working hours ending on or before 5:00 p.m. and who elect to stay at school until 1:00 or 2:00 p.m. may have difficulty scheduling ample blocks of time for meaningful work experiences. To solve this problem, schools should offer the related vocational instruction during an early morning or "zero period," enabling students to leave school before noon.

Another consideration associated with the typical half-day alternating schedule relates to students who have career interests in occupational areas that require them to work during the morning hours in order to receive quality work experiences. To solve this problem, schools should make arrangements for students to work in the mornings and take regularly scheduled

classes in the afternoons. Regardless of the local scheduling situation, students must be given enough time to receive quality learning experiences on the job.

There are other scheduling patterns that may be appropriate for a local school division. For example, in vocational programs that have students in a related class for blocks of two or three periods at the beginning or end of the school day, a work component could be scheduled to alternate with these classes on a daily, weekly, monthly, or semester basis. Scheduling patterns in these situations would not require the provision of special sections of academic classes, thus allowing students to gain personal, social, and cultural skills available through the school environment.

For some school divisions and for some students, it also may be feasible to have students attend classes at night (if a night school is available) and work during the day. It may be possible to have special sections of academic classes offered to allow students to work on a daily, weekly, monthly, or semester basis. However, it should be noted that scheduling patterns involving night school and special sections of academic classes should be targeted for extremely high-risk students and not the majority of those enrolled in vocational education. Furthermore, if a need is found in a particular school system to develop a unique scheduling pattern, certain factors must be considered. These factors, including desired student outcomes, vocational education quality control measures, and standards for using a supervised on-the-job education component, will be discussed in relation to certain supporting recommendations which follow.

Supporting Recommendations

Four supporting recommendations are necessary to ensure the implementation of recommendations #1 and #2.

Supporting Recommendation #1

Implement and maintain specific program standards when a school-supervised work component is provided.

To achieve the positive experiences to be realized from school-supervised work experience programs, certain standards should be implemented and maintained. The following critical elements of school-supervised programs represent a synthesis of the literature and of the experiences of successful teacher-coordinators who have managed such programs. References from which these elements (standards) were taken, include Weber (1986); Leske and Persico (1984); Stern, McMillion, Hopkins, and

Stone (1989); Mason, Haines, and Furtado (1986); Meyer, Crawford, and Klaurens (1975); U.S. Department of Labor (1987). A vocational program that utilizes a school-supervised on-the-job work educational component includes:

- Related classroom instruction which coordinates instruction with on-the-job experience.
- A progressive job that provides opportunities for the student to develop and evaluate a broad set of occupational competencies.
- An individualized written training plan that is correlated to the student's in-school curriculum.
- Regular supervision, counseling, and support of the student trainee by the teacher-coordinator and the training supervisor, who may be referred to as a job sponsor.
- Assigned duties and responsibilities for students consistent with a specific job in the business.
- Specific criteria for the selection and use of training sites and training supervisors.
- A written training agreement which defines the responsibilities of the student, employing business, training supervisor, school, parent, and teacher-coordinator. This training agreement should be signed by all participating parties.
- Frequent and specific informal and formal evaluation of the student's progress with feedback and followup to improve performance.
- Compliance with all wage and labor laws regulating the employment of student-learners.
- Adequate time during the school day and beyond the academic school year as well as ample time and resources for the teacher-coordinator to manage the supervised work activities.

- Establishment and use of an advisory group that includes, but is not limited to, representatives of the industry(s) associated with the program.
- Parental or guardian involvement.
- Follow-up activities such as placement of graduates in full-time positions, establishing a formal plan for providing additional instruction, and determining status of graduates after three and five years.
- Teachers with appropriate occupational experience related to the industry associated with their programs as well as professional preparation in operating a school-supervised work education program.
- Full and fair opportunity to apply for the program.

Supporting Recommendation #2

Maintain specific quality-control factors to ensure program effectiveness in preparing students for successful career-sustaining employment upon graduation.

Historically, the evaluation of vocational education programs has been based on outcomes. These outcomes include the employment or education status of program completers, job tenure, wage rates, performance evaluation by employers, or mastery of specific competencies. Because the characteristics of vocational education programs are significantly varied, these outcome measures alone can be misleading and of limited value in program design. To ensure that students' educational outcomes are achieved, as specified in supporting recommendation #3, and to assist in program planning, factors associated with quality vocational education programs should be built into the supervised on-the-job program models.

The following factors are characteristic of quality vocational education programs:

- **A Mission and Objectives with Internal and External Value.** All vocational programs must have a

written mission statement with supporting, specific objectives. The mission statement and objectives should be consistent with those of the educational institution, the productivity needs of business and industry, and the educational and employment needs of students. The vocational education program must be recognized as an important and essential part of the curriculum both within the school and within the business community.

- **Adequate Resources.** Resources adequate to meet the objectives and needs of the program must be provided. These resources include personnel, instructional materials and equipment, appropriate facilities, computer hardware and software, time for the teacher-coordinator to coordinate and supervise vocational application activities, and administrative support.

- **Qualified Instructors.** Vocational education teachers must meet all initial professional standards and certification requirements for the particular vocational program area and continue professional development experiences in both education and business/industry. In addition to the necessary pedagogical skills required of all teachers, vocational teacher- coordinators must demonstrate competence in career guidance, management of individualized instruction, and methods of vocational application (for example, supervising on-the-job education, laboratory work, and vocational student organizational activities).

- **Supporting Programs and Services.** Effective counseling, evaluation, testing, career exploration, remediation, tracking from entry through exit, and transition support should be available to students and teachers as needed prior to, during,

and after the student's participation in the vocational education program.

- **Continuing Business Participation.** Business people with experience and expertise in the occupations related to the vocational education programs, practitioners who value education and training, must be involved meaningfully and continuously in program planning, operation, and evaluation. Participation can include advisory committee membership, support of instruction, supervision and training of students and graduates, and consultation in making decisions affecting the programs.

- **Basic Skills Competency.** Students must be competent in the basic skills required for completing the vocational education curriculum successfully, for meeting graduation requirements, and for progressing into entry-level employment or continuing education.

- **Motivated Students with An Appropriate Career Focus.** Students who enroll in vocational education programs should understand the organization and objectives of the program and be interested in preparing for full-time employment, for advanced training, or additional education in an occupation associated with program content.

- **Parental Support and Involvement.** Parents should understand the organization and objectives of the program and support the participation of the student throughout the duration of the career preparation period.

- **An Occupationally Valid Curriculum.** The curriculum must be planned to develop the knowledge and skills needed for career-sustaining employment in an occupation related to the vocational education program and/or continuing education in the career area.

- **An Integrated Curriculum.** The vocational education curriculum applies and extends relevant basic and academic skills. Cooperative planning is required to coordinate vocational education instruction with basic skills instruction and related academic courses in the school.

- **Vocational Application.** Students must be given opportunities to apply and evaluate occupational competencies in real business/industry settings or in environments that closely replicate the job. Vocational application methods (cooperative education, clinical/field internships, apprenticeship training, laboratory work, selected vocational student organization activities, etc.) are based on and coordinated with other parts of the vocational education curriculum. Instruction must be guided by a written curriculum or training outline and must be planned and supervised by persons with skills in education/training and in the occupational area being studied.

- **Placement and Transition Support.** Counseling, supervision, and appropriate support service and assistance are provided to students when they complete the vocational education program until they have moved successfully into career-sustaining employment or are enrolled in a program for advanced training or continuing education.

Supporting Recommendation #3

Ensure that all students completing a secondary vocational education program have opportunities to achieve educational outcomes through a well-planned, structured, and supervised on-the-job educational program.

Many of the recent national reports charting direction for the future of secondary education in this country have cited the

essential competencies or skills that must be mastered by young people if they are to enter successfully and advance appropriately into career-sustaining employment. Research studies conducted by the following organizations were analyzed in searching for desired outcomes of on-the-job education: The Carnegie Forum on Education and the Economy, the National Alliance of Business, the American Society for Training and Development ("Workplace Basics: The Skills Employers Want"), and the National Commission on Secondary Vocational Education.

As a result of this analysis of research, the following 10 outcomes are to be achieved through on-the-job education:

- Math, reading, writing, oral and listening communications skills, and computation skills applied to the workplace
- Work ethics, for example, regular attendance, punctuality, honesty, integrity
- Knowledge of the systems of computers and technology
- Understanding of the economics of work and the workplace, including organizational structure and leadership
- Problem-solving and decision-making skills
- Goal setting, career, and personal planning skills
- Interpersonal, negotiation, and teamwork skills
- Resource management skills
- Broad and specific occupational skills
- Knowledge of how to learn and grow in a job and how to manage technological and organizational change

Supporting Recommendation #4

Provide for "at-risk" students a comprehensive program incorporating a vocational education component that begins in the middle school.

Evidence accumulated from an analysis of "at-risk" students and those who have dropped out prior to high school graduation suggests that they are not effectively served through the regular

school curriculum. Factors such as lack of basic skills, lack of motivation and interest, conflicts with teachers, family-related responsibilities, and excessive work hours may interfere with regular school attendance and effective participation.

Vocational education appears to provide important strategies in responding to the needs of "at-risk" students. It offers instructional patterns different from the traditional classroom, and "at-risk" students frequently enroll in vocational courses. However, these students' participation patterns in vocational education appear to be different than those not identified as "at- risk" (Weber, 1986). Enrollments are concentrated in beginning and non-technical courses, and they may be described as random rather than as a sequence of courses in one occupational area. Unfortunately, many "at-risk" students drop out of school before having the opportunity to participate in vocational education. If they persist until the junior or senior year, they frequently are so far behind grade level in basic skills and in meeting graduation requirements that they cannot enroll in or successfully complete advanced vocational courses.

Evidence of the nature of the "at-risk" problem in schools has been accumulated in numerous studies. A summary of information from selected studies is provided in Appendix B.

A model vocational education program designed to serve "at-risk" students should begin at least by the middle school years, extend through the high school curriculum, and conclude with transition support into successful full-time employment. It should be an integral part of a complete curriculum that has three integral components:

(1) **Personal/Social Development**--student attitudes, values, interpersonal relationships, physical and mental health, self-esteem

(2) **Academic Development**--basic skills development with immediate intervention and remediation when behind grade level, fulfillment of academic requirements to maintain progress toward graduation, counseling and other support to encourage successful participation in a range of school activities

(3) **Vocational Development**--career exploration, career guidance and counseling, career testing, understanding of labor market requirements, early community service and job experiences, vocational applications to improve basic and academic skills, sequential vocational education, school-supervised

on-the-job training, job placement, and assistance in the transition between job and school.

Vocational education programs for "at-risk" students should contain the following elements at the instructional levels indicated:

Middle School

Career exploration courses and experiences
Formal career counseling and testing
Study of the private enterprise system and employment requirements
Initial knowledge and some skill development in broad occupational areas
Community service activities and work simulations

Early High School

Continuing career exploration, testing, and counseling to refine career choices
Introductory vocational courses emphasizing integration of basic and academic knowledge and skills
Job shadowing, project and laboratory work, and introductory job experiences related to vocational course work and career interests
Support in job search and job placement in order to relate part-time work experience to career interests

11th and 12th Grades

Advanced vocational courses to develop necessary knowledge and skills for ultimate placement in career-sustaining, full-time employment
Extensive project and laboratory work to develop and evaluate occupational skills
Placement in on-the-job training through use of a school-supervised work-education program
Testing to determine occupational competence
Continuing career and personal guidance and counseling, placement in a full-time job with transition support or placement in a continuing education program

Summary

In response to a request from the Virginia General Assembly, the Department of Education arranged for a study to be conducted by Virginia Tech concerning the "Feasibility and advisability of restructuring the vocational education curriculums in the schools to provide the opportunity for blocks of time larger than those

traditionally provided for on-the-job, cooperative, and apprenticeship training." Procedures in conducting the study included the formation of an advisory committee; a review of literature, research, and educational models; personal and telephone interviews; an examination of non-traditional vocational education work programs; a study of the vocational education needs of "at-risk" students; a review of draft recommendations by advisors to the study; and the establishment of focus groups of education and industry personnel to review the entire report.

Two major recommendations were as follows:

(1) To restructure vocational education programs as needed to include a culminating, supervised, on-the-job educational experience for those students who are likely to enter into full-time employment immediately upon graduation from high school and limiting students' work schedules not to exceed 20 hours per week when school is in session; and

(2) To include ample time for students to receive quality work experiences when scheduling supervised on-the-job education, a responsibility of the local school division.

Supporting recommendations necessary to ensure the implementation of the two major recommendations were presented as follows:

(1) To implement and maintain specific program standards when a school-supervised work component is provided;

(2) To maintain specific quality-control factors to ensure program effectiveness in preparing students for successful career-sustaining employment upon graduation;

(3) To ensure that all students completing a secondary vocational education program have opportunities to achieve educational outcomes through a well-planned, structured, and supervised on-the-job educational program; and

(4) To provide for "at-risk" students a comprehensive program incorporating a vocational education component that begins in the middle school.

In designing vocational education programs with a school-supervised on-the-job component, local planners must ensure that

program standards are established and maintained. Specific quality-control factors must be incorporated within the program design to include, among other standards, related classroom instruction, a progressive job, extensive business person and parent involvement, and frequent evaluation and follow-up. Provision must be made to ensure that all students completing a secondary vocational education program have opportunities to achieve desired educational outcomes such as basic skill applications to the workplace, work ethics, knowledge of computer and other technology systems, problem-solving and decision-making skills, and management of technological and organizational change. In addition, vocational education programs for "at-risk" students should be comprehensive and specially designed to include specific components at the middle-school, early high school, and eleventh- and twelfth-grade instructional levels.

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APPENDIX A

NON-TRADITIONAL VOCATIONAL EDUCATION WORK PROGRAMS FOUND IN VIRGINIA

APPENDIX A

SELECTED NON-TRADITIONAL VOCATIONAL EDUCATION WORK PROGRAMS FOUND IN VIRGINIA

I. **Program: Supervised Work Experience Program**
Characteristics:

a. Seniors in a vocational education program that are scheduled for blocks of time (2-3 periods per day) are placed on the job once they have obtained a predetermined number of competencies in the classroom. The placement generally takes place during the second semester of their senior year and students work in lieu of attending their vocational class.

b. Students take academic courses in the morning or afternoon.

c. The vocational teacher is responsible for placement and supervision. However, in most school systems the teachers are not given adequate time for placement and supervision. They are expected to conduct these responsibilities on their own time. One school system does have a full time person (not the student's teacher) who is responsible for placement and supervision.

d. Students generally do not work large blocks of time.

Selected Sites: Stafford County, Spotsylvania County, Henrico County, Norfolk, Hampton, Chesapeake, Bristol, Harrisonburg

II. **Program: Housing Construction**
Characteristics:

a. Under the supervision of a teacher(s), students construct a house that is eventually sold. A foundation is established to finance the project.

b. Depending on the school system, students take their academic classes at their home high school or the classes are taught on site in mobile units.

c. The controlled work experience (controlled by the school system) allows for flexible scheduling of classes and work.

d. Program provides excellent work experience in construction and landscape architecture. However, as can be seen, is narrowly focused for students across the board in vocational education.

Selected Sites: Fairfax, Washington County

III. **Program: Alternative Coop Program**
Characteristics:

a. Program was in operation from 1969-1975.

b. Program sought hardcore, at-risk students to motivate them to return to school or to stay in school.

c. Students were placed on a job in marketing. They alternated work and class on a weekly basis (in school one week, at work one week). Two teams of students were on this schedule to give employers the equivalent of one full time employee.

d. Students were provided special sections of math, English, social studies, and marketing education classes. Each class operated two hours per day, five days a week, every other week.

e. A marketing education, teacher-coordinator was responsible for placement and supervision of students as well as coordination of entire program.

Site: Arlington County

IV. **Program: Project Stay**
Characteristics:

a. Program targeted for dropouts

b. Primary purpose of program is to help young people obtain skills that will enable them to get a job. Students do not graduate from high school through the program. However, some may be motivated to return to school.

c. Students take math, English, and a cooperative vocational class. They attend math and English class once a day in the morning. They attend the cooperative vocational class once a week for 2 1/2 hours. This allows more time for longer work hours four days a week.

d. Students are placed on a job and supervised by a teacher-coordinator.

Site: Newport News

V. Program: Second School Characteristics:

a. Students are provided academic classes at night to give them the opportunity to complete a two year vocational program at a vocational/technical center. The program is designed to lengthen the school day.

b. Some students opt to attend classes at night and work during the day. In general, most students who work are not supervised by school personnel. However, students may elect to participate in a Supervised Work Experience Program (SWEP). In the SWEP program students obtain a predetermined number of competencies in their vocational classes and are then placed on a job in lieu of attending their vocational classes. They attend their academic classes at night.

c. Program requires extended contracts for academic teachers, facilities for classes and supervision of facilities. (The facilities and supervision of facilities is not an

added expense for the school division piloting this program. They are using a building that is already open and supervised for their adult education program.)

Site: Chesterfield County

APPENDIX B

EVIDENCE OF THE NATURE OF THE "AT-RISK" PROBLEM IN SCHOOLS

APPENDIX B
Evidence of the Nature of the "At-Risk" Problem in Schools

While the dropout rate has declined significantly, it appears to have reached a level of stability at 13-14 percent where it has remained for over a decade. Several recent studies (Cross, 1985; Kaplan, 1985; Levin, 1985) suggest that efforts which reduce student options by focusing on specific curriculum patterns, extensive standardized testing, and outcomes directing students exclusively toward postsecondary education increase the likelihood that more "at-risk" students will not complete high school.

According to the William T. Grant Commission on Work, Family, and Citizenship (1988), real earnings of male dropouts have declined from 1973-1986 by 42 percent. Annual earnings of male dropouts age 20-24 in 1986 were $6,853 with 10.1 percent reporting not earnings during the year.

Over 36 percent of families with both parents at home and the head of household under 25 years of age live in poverty. Families headed by a single female parent under 30 years of age are at particular risk with 81.5 percent living below the poverty level.

The Office of Educational Research and Improvement (1987) reported that 71 percent of prison inmates are dropouts; Jones (1977) used police statistics to suggest that dropouts are 6 to 10 times more likely to be involved in crimes than those who stay in school. Buxton (1984) concluded that dropouts are more dissatisfied with their lives, leading to increased social service and health care costs.

Catterall (1985) estimated the lifetime earnings lost by males who drop out of high school rather than receiving a diploma will be $266,000 and females $199,000. When those figures were applied to the number of dropouts from the 1981 graduating class, the estimated 973,000 dropouts were giving up lifetime earnings potential of at least $228 billion. Using a 30 percent total tax rate on those earnings, the lost tax revenue for local, state, and national governments for a single class of dropouts can be estimated at $68.4 billion.

Catterall estimated the cost of social services for one dropout as $26,000 or a national total of $20 billion dollars as the lifetime costs of the dropouts from the class of 1981.

The Current Population Survey of the U. S. Bureau of the Census (1985) identified 4.3 million dropouts age 16-24. Of that group 3.5 million were white, 700,000 were black, and 100,000 were other races. Sixteen percent of males were dropouts while 12 percent of females did not complete high school. The dropout rate is three times higher for youth from low-income, low-skill, and limited-income households.

Borus (1983) identified the most powerful correlates of dropping out as:

- Being 2 or more years behind grade
- being pregnant
- being from a home where the mother or father were not present
- being from a home where the father dropped out of school
- having little knowledge of the labor market

Successful interventions with "at-risk" students have demonstrated that programs must begin early (at least by the middle school grades) and include a comprehensive program of academic course work, counseling, and personal and social development experiences. If successful with early intervention, "at-risk" students may be able to participate in regular vocational education curriculum in high school.